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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/632,587	08/04/2000	Kiyomitsu Takizawa	122.1414	1898

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STAAS & HALSEY LLP
SUITE 700
1201 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER	
KING, JUSTIN	

ART UNIT	PAPER NUMBER
2111	

DATE MAILED: 01/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/632,587	TAKIZAWA ET AL.	
	Examiner	Art Unit	
	Justin I. King	2111	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12/9/04*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5 and 10-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5 and 10-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 August 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *12/15/04*.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The previous Office Action, mailed 9/22/04, is hereby vacated. A new Office Action follows.

2. The preliminary amendment and responses, filed 8/11/04 and 9/03/04, have been entered. Claims 1-5 and 10-16 are considered. Claims 1 and 15-16 have been amended. Claims 6-9 have been cancelled

Drawings

3. Figures 1-6 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The disclosure is objected to because of the following informalities: While the Specification states an inverted terminal is coupled to resistors 1671 and 1672 (Specification, page 16, lines 27-29), the Specification also states that the voltage Vil

applied to the non-inverted terminal (Specification, page 16, lines 33-34). Appropriate correction or clarification is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of the KEEMUX KVM Switch by the Network Technology Inc., Lee (U.S. Patent No. 5,935,254), and Wilder et al (U.S. Patent No. 6,557,170).

Referring to claim 1: The KEEMUX is a PC switching device installed between a keyboard and a plurality of personal computers; it connects to each computer individually and supports the SUN computer's operations, and the Sun computer features the power control via the keyboard stroke. Under KEEMUX's Normal Operating Mode, only the selected PC receives the keyboard signals; furthermore, the KEEMUX has a LED light

for indicating the currently selected computer. Thus, the KEEMUX discloses the selective input means.

The KEEMUX has a LED light for the mode of operation. Thus, under the SCAN mode, the KEEMUX's LED light has the recognizing means for recognizing that some of the plurality of personal computers, which corresponds to at least one of the power control switches firstly pressed, is in a power-on state.

The KEEMUX's Normal Mode only controls one selected computer and transmits the control code including the power control code to the selected computer. Thus, the Normal mode is the code transmitting means for transmitting codes assigned to the power control switches to certain ones of the personal computers and powering off the same when the certain ones of the Personal computers in the power-on state are selected-by the selective inputting means and the power control switches that correspond to the certain ones of the personal computers in the power-on state are pressed again.

The KEEMUX does not explicitly disclose that the attached keyboard is the one without a power control key and KEEMUX does not explicitly disclose a plurality of power control switches.

Lee discloses that it is known to use keyboard or program to control the computer's power (abstract). Lee further discloses that it is known to employ a soft switch, which is any keyboard's key for controlling the computer power (column 1, lines 46-47), or to employ a non-soft switch, which specifies a particular keyboard key input for controlling the computer power (column 1, line 35). In the soft switch scenario, since the keyboard does not have a specific key for controlling the computer power, such keyboard is the one without the power control key. Wilder discloses a KVM switch with

a plurality of power control switches and allowing user to selectively control electrical power to the computers (abstract). Wilder teaches one to equip KVM with the power switches to prevent any unauthorized personnel to operate the computer (column 3, lines 16-20).

Hence, it would have been obvious to one having ordinary skill in the computer art at the time Applicant made the invention to adapt Lee and Wilder's teachings onto KEEMUX because Lee teaches one to use the soft switch to avoid the circuit damage (column 1, lines 53-54) and Wilder teaches one to further enhance the system security by preventing any unauthorized personnel to power on any computers.

8. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of the KEEMUX KVM Switch by the Network Technology Inc. and Lee.

Referring to claim 2: The KEEMUX is a PC switching device installed between a keyboard and a plurality of personal computers; it connects to each computer individually and supports the SUN computer's operations, and the Sun computer features the power control via the keyboard stroke. The KEEMUX has a function to simultaneously start-up and shut-down all computers, which is the claimed powering means that can power all of the plurality of personal computers simultaneously by pressing the keyboard key when the plurality of personal computers are in a power-off state.

The KEEMUX has a LED light for the mode of operation. Thus, under the SCAN mode, the KEEMUX's LED light has the recognizing means for recognizing that some of the plurality of personal computers, which corresponds to at least one of the power control switches firstly pressed, is in a power-on state.

The KEEMUX's Normal Mode only controls one selected computer and transmits the control code including the power control code to the selected computer. Thus, the Normal mode is the code transmitting means for transmitting codes assigned to the power control switches to certain ones of the personal computers and powering off the same when the certain ones of the Personal computers in the power-on state are selected-by the selective inputting means and the power control switches that correspond to the certain ones of the personal computers in the power-on state are pressed again.

The KEEMUX does not explicitly disclose that the attached keyboard is the one with a power control key.

Lee discloses that it is known to use keyboard or program to control the computer's power (abstract). Lee further discloses that it is known to employ a soft switch, which is any keyboard's key for controlling the computer power (column 1, lines 46-47), or to employ a specific keyboard key input for controlling the computer power (column 2, lines 6-7). In the specific keyboard input scenario, since not any key on the keyboard can control the computer power, such keyboard is the one with the power control key.

Hence, it would have been obvious to one having ordinary skill in the computer art at the time Applicant made the invention to adapt Lee's power control key onto KEEMUX because Lee teaches one to use the power control key to avoid the user mistake (column 1, line 66).

Referring to claim 3: The KEEMUX is a PC switching device installed between a keyboard and a plurality of personal computers; it connects to each computer individually

and supports the SUN computer's operations, and the Sun computer features the power control via the keyboard stroke.

When KEEMUX powers on a connected computer under its Normal Operating Mode, it is the claimed powering means, which powers some of the plurality of personal computers previously selected by pressing the power control key on the keyboard when all of the plurality of personal computers are in a power-off state.

The KEEMUX has a LED light for the mode of operation. Thus, under the SCAN mode, the KEEMUX's LED light has the recognizing means for recognizing that some of the plurality of personal computers, which corresponds to at least one of the power control switches firstly pressed, is in a power-on state.

The KEEMUX's Normal Mode only controls one selected computer and transmits the control code including the power control code to the selected computer. Thus, the Normal mode is the code transmitting means for transmitting codes assigned to the power control switches to certain ones of the personal computers and powering off the same when the certain ones of the Personal computers in the power-on state are selected-by the selective inputting means and the power control switches that correspond to the certain ones of the personal computers in the power-on state are pressed again.

The KEEMUX does not explicitly disclose that the attached keyboard is the one with a power control key.

Lee discloses that it is known to use keyboard or program to control the computer's power (abstract). Lee further discloses that it is known to employ a soft switch, which is any keyboard's key for controlling the computer power (column 1, lines 46-47), or to employ a specific keyboard key input for controlling the computer power

(column 2, lines 6-7). In the specific keyboard input scenario, since not any key on the keyboard can control the computer power, such keyboard is the one with the power control key.

Hence, it would have been obvious to one having ordinary skill in the computer art at the time Applicant made the invention to adapt Lee's power control key onto KEEMUX because Lee teaches one to use the power control key to avoid the user mistake (column 1, line 66).

9. Claims 4, 11, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of the KEEMUX, Lee, Wilder, and Kwok (U.S. Patent No. 4,412,245).

Referring to claims 4, 11, and 16: Claim 1's argument applies; furthermore, Lee discloses the transistor for controlling the connecting states (column 8, lines 59-65). Lee further discloses that a normal power supply allows the transistor to be conductive (column 8, lines 63-64), which is the claimed turning on some transistors. However neither prior art explicitly discloses the comparator. The KEEMUX has the LED for indicating each attached host computer's power-on status, but KEEMUX does not explicitly disclose the operation of powering its LED. Kwok discloses a differential current detector and a way to power the LED. Kwok discloses that it is known to couple a comparator's output to a transistor to power the LED (column 7, lines 54-58). Kwok teaches a way to power the LED by comparing the voltage differences; thus, KEEMUX can compare the voltage of the power-on host computer and power the associated LED. Hence, it would have been obvious to one having ordinary skill in the computer art at the

time Applicant made the invention to adapt Lee, Wilder, and Kwok's teachings onto KEEMUX because Lee teaches one to use the soft switch to avoid the circuit damage and Kwok teaches one to utilize the voltage difference to power the indicative LED, and Wilder teaches one to further enhance the system security by preventing any unauthorized personnel to power on any computers.

10. Claims 5, 13-14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of the KEEMUX, Lee, and Kwok.

Referring to claims 5 and 13: Claim 2's argument applies; furthermore, Lee discloses the transistor for controlling the connecting states (column 8, lines 59-65). Lee further discloses that a normal power supply allows the transistor to be conductive (column 8, lines 63-64), which is the claimed turning on some transistors. However neither KEEMUX nor Lee explicitly discloses the comparator. The KEEMUX has the LED for indicating each attached host computer's power-on status, but KEEMUX does not explicitly disclose the operation of powering its LED. Kwok discloses a differential current detector and a way to power the LED. Kwok discloses that it is known to couple a comparator's output to a transistor to power the LED (column 7, lines 54-58). Kwok teaches a way to power the LED by comparing the voltage differences; thus, KEEMUX can compare the voltage of the power-on host computer and power the associated LED. Hence, it would have been obvious to one having ordinary skill in the computer art at the time Applicant made the invention to adapt Lee and Kwok's teachings onto KEEMUX because Lee teaches one to use the power control key to avoid the user mistake and Kwok teaches one to utilize the voltage difference to power the indicative LED.

Referring to claims 14 and 16: Claim 3's argument applies; furthermore, Lee discloses the transistor for controlling the connecting states (column 8, lines 59-65). Lee further discloses that a normal power supply allows the transistor to be conductive (column 8, lines 63-64), which is the claimed turning on some transistors. However neither KEEMUX nor Lee explicitly discloses the comparator. The KEEMUX has the LED for indicating each attached host computer's power-on status, but KEEMUX does not explicitly disclose the operation of powering its LED. Kwok discloses a differential current detector and a way to power the LED. Kwok discloses that it is known to couple a comparator's output to a transistor to power the LED (column 7, lines 54-58). Kwok teaches a way to power the LED by comparing the voltage differences; thus, KEEMUX can compare the voltage of the power-on host computer and power the associated LED. Hence, it would have been obvious to one having ordinary skill in the computer art at the time Applicant made the invention to adapt Lee and Kwok's teachings onto KEEMUX because Lee teaches one to use the power control key to avoid the user mistake and Kwok teaches one to utilize the voltage difference to power the indicative LED.

11. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of the KEEMUX, Lee, Wilder, Kwok, and "Differential Amplifiers" by Doug Gingrich. Claims 12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of the KEEMUX, Lee, Kwok, and Doug Gingrich.

Referring to claims 10, 12, and 15: The disclosures of the KEEMUX, Lee, Wilder, and Kwok are stated above. None of them explicitly disclose or teach the first voltage and the second voltage divided by the first voltage divider and the second voltage

divider. Gingrich discloses a differential amplifier with voltage dividers dividing the voltages to both terminals of the amplifier (figure 6.18). Gingrich teaches that it is known to employ voltage dividers to reduce noise before inputting into the differential amplifier to gain a more stable or consistent output. Since Gingrich's differential amplifier amplifiers the difference between the inputs as a precision voltage difference amplifier, Gingrich's amplifier is a comparator. Hence, it would have been obvious to one having ordinary skill in the computer art to adapt Gingrich's teaching onto KEEMUX, Lee, Wilder, or Kwok because Gingrich teaches one to obtain a more stable and consistent output result from a comparator/amplifier by reducing the input voltages' noise.

Response to Amendment

12. In response to Applicant's argument that the KEEMUX does not teach a plurality of power control switch (Remark, page 7): Please see the revised Rejections in combination with Wider above.

13. In response to Applicant's argument that the KEEMUX does not recognize that some of the plurality of personnel computers, which correspond to at least one of the plurality of power control switches firstly pressed firstly pressed, are in a power-on state (Remark, page 7): As the Rejection stated above, the KEEMUX's LED light under the SCAN mode recognizes the computers in a power-on state. Regarding the limitation of the "firstly pressed", the Specification does not provide any particular interpretation on "firstly pressed". The claim scope is interpreted as broad as possible. Thus, the "firstly pressed" is interpreted as to select one particular computer.

14. In response to Applicant's argument that the KEEMUX does not disclose selective inputting means (Remark, bottom of the page 7): The KEEMUX does disclose the selective input means. The purpose of the KVM switch is to share one set of keyboard, mouse, and monitor among a plurality of computers. Thus, while the KEEMUX's input devices interface with only one particular computer under the Normal Mode is the claimed selecting means. Examiner does not agree that the interpretation of the Normal Mode is not accurate as Applicant argues.

15. In response to Applicant's argument that the Broadcast Mode does not teach the powering off the selected computer and when the power control switch pressed again (Remark, page 8): See the revised Rejection above, which applies the Normal Mode in stead of the Broadcast Mode for teaching powering off selected computer.

16. In response to Applicant's argument that the KEEMUX does not disclose the powering means (Remark, page 9): The KEEMUX explicitly discloses broadcasting keystroke to simultaneously start-up and shut-down computers (NTI KVM switch, page 1).

17. In response to Applicant's argument that the KEEMUX does not disclose recognizing all computers in power-on state (Remark, page 9): As stated in the Rejection above, the SCAN mode detects all computers in power-on state.

18. In response to Applicant's argument that the Lee does not teach the transistor for controlling state and the turning on some transistors is not taught (Remark, page 10): See the revised Rejection above. Lee discloses that a normal power supply allows the transistor to be conductive (column 8, lines 63-64), which is the claimed turning on some transistors.

19. In response to Applicant's argument that the KEEMUX cannot, by design, power the computers (Remark, top of page 9): Examiner agrees with Applicant that when a KVM is powered by the computer it is connected to, the KVM cannot power the computer. However, only the particular model KEEMUX-P2 claims that it is powered by the computer it is connected to. The KEEMUX-S8 explicitly discloses that it has the functions of simultaneously start-up and shut-down function. In addition, The Prior art Wilder discloses the power switches within the KVM.

20. In response to Applicant's argument that the prior art does not teach a comparator is driven from the power receiving terminal of a keyboard (Remark, page 12): The claimed limitation is either the computer's power supply terminal **or** the keyboard's power receiving terminal. Since the comparator is known to couple to a transistor, and the transistor is coupled to the power supply, the prior art teaches driven from the power supply terminal.

Conclusion

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin I. King whose telephone number is 571-272-3628. The examiner can normally be reached on Monday through Friday, 9:00 am to 5:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on 571-272-3632 or on the central telephone number, (571) 272-2100. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lastly, paper copies of cited U.S. patents and U.S. patent application publications will cease to be mailed to applicants with Office actions as of June 2004. Paper copies of foreign patents and non-patent literature will continue to be included with office actions. These cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site (www.uspto.gov), from the Office of Public Records and from commercial sources. Applicants are referred to the Electronic Business Center (EBC) at http://www.uspto.gov/ebc/index.html or 1-866-217-9197 for information on this policy. Requests to restart a period for response due to a missing U.S. patent or patent application publications will not be granted.

Justin King
December 20, 2004

MARK H. RINEHART
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100